

### **REMARKS**

Claims 1-3, 6, 8 and 9-12 are pending in this application.

Claims 1-9 have been amended. No claims have been canceled although claims 4,5 and 7 are currently withdrawn and new claims 10-12 have been added.

#### **I. Claim Rejections Under 35 U.S.C. § 102**

The Examiner has rejected claims 1, 2, 3, 8 and 9 under 35 U.S.C. § 102(b) as being anticipated by Publication No. JP 2000-227080 to Ogawa et al. (hereinafter "Ogawa").

As noted above, claims 1-9 have been amended and independent claim 1 as amended positively recites a displacement type expansion machine, including inter alia said communicating passage communicates with said expansion chamber at a position immediately after the occurrence of over expansion. These claimed features are amply supported by the amendments disclosed in the specification, for example, page 26, lines 9-20.

Applicants submit that, in dramatic contrast to the claimed invention, none of the asserted references, whether taken alone or in combination, or as applied under section 35 U.S.C. § 102 or 35 U.S.C. § 103, at least teach, disclose or suggest each and every element of amended claim 1, including the features identified above. That is, as best understood there is simply nothing in Ogawa that remotely suggests the combination of said communicating passage communicates with said expansion chamber at a position immediately after the occurrence of overexpansion, within a displacement type expansion machine.

Instead, Ogawa discloses a scroll-type expansion machine, as clearly shown in Figs. 5 and 9, with such structure to establish fluid communication from a fluid outflow side of an expansion chamber to an expansion-process intermediate position of the expansion chamber to prevent overexpansion. Although Ogawa discloses a displacement type expansion machine structured to establish fluid communication from a fluid outflow side of an expansion chamber to an expansion-process intermediate position of the expansion chamber to prevent over expansion. Ogawa fails disclose the same specific inventive advantages or their equivalents, as the present invention, when the fluid is introduced to the expansion chamber. Specifically, and as clearly shown and described in Ogawa, the fluid is introduced to an outflow side of the expansion

chamber just before an expansion process is finished. The fluid is introduced into the expansion chamber *during the occurrence of an overexpansion* in the last stage of the operation of the expansion mechanism (after power consumed), and as a result, the more power that is consumed reduces the likelihood for an efficient power recovery due to the fact that overexpansion has already taken place. Therefore, it is clear that with Ogawa the amount of power recovery is reduced considerably until such time as the fluid is introduced directly into the expansion chamber.

Clearly, and as claimed in claims 1 and 10 of the present invention, the communicating passage communicates with the expansion chamber at a position *immediately after the occurrence of overexpansion*, or that is to say a first position where overexpansion can occur. Therefore, with the instant invention, when the machine is in the condition of the occurrence of overexpansion, the fluid has been already introduced into the expansion chamber, and thereby the inventive machine prevents overexpansion. As a result of such an efficient operation of the claimed invention, the consumption of power can be minimized.

Furthermore, in claims 11 and 12 of the present invention, the inventive communicating passage communicates with the expansion chamber at a position of one-fourth of the section/expansion process toward the direction of the expansion process from a position where the suction process and a suction/expansion process is completed, or at such a position being one-fourth to three-eighths of a periodic suction/expansion process heading toward the direction of the expansion process, from a position where the suction process occurring in the suction/expansion process is completed. Therefore, just like claims 1 and 10, when the inventive machine is in the condition of the occurrence of overexpansion, the fluid has already been introduced into the expansion chamber, thereby preventing overexpansion and similarly the consumption of power can be minimized.

For at least these reasons, Applicants submit that none of the asserted references, whether taken alone or in reasonable combination, at least teach, disclose or suggest the claimed combination of the elements recited by at least amended claim 1. As such, claim 1 is clearly patentable. Because claims 2-3, 8 and 9 depend from claim 1, claims 2, 3, 8 and 9 are at least patentable by virtue of their dependency as well as for their additional recitations. Accordingly,

the immediate withdrawal of the prior art rejections of claims 1-3, 8 and 9 is respectfully requested.

With regards to claim 6 and the Examiner's assertion that claim 6 is obvious in view of Ogawa, Applicants respectfully maintain that for at least the same reasons as discussed with regards to claim 1 under section 102, and for the additional reason that claim 1 is not rendered obvious under section 103 with regards to Ogawa, so similarly claim 6 under section 103 is distinguishable with regards to Ogawa, as well as for the additional recitations contained therein. Accordingly, the immediate withdrawal of the prior art rejection of claim 6 is respectfully requested.

## II. Conclusion

All matters having been addressed in view of the foregoing, Applicants respectfully request the entry of this Amendment, the Examiner's reconsideration of this application, and the immediate allowance of all pending claims.

Applicants' undersigned representative remains ready to assist the Examiner in any way to facilitate and expedite the prosecution of this matter. If any point remains an issue in which the Examiner feels would be best resolved through a personal or telephone interview, please contact the undersigned at the telephone number listed below.

Please charge any fees associated with the submission of this paper to Deposit Account No. 02-2448. The Commissioner for Patents is also authorized to credit any overpayments to the above-referenced deposit account.

Dated: August 3, 2007

Respectfully submitted,

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